

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-4 (Canceled).

Claim 5 (Original): A method for manufacturing a transparent substrate for a display device comprising:

forming a polymer layer containing a copolymer selected from block copolymers and graft copolymers on at least one major surface of a transparent substrate;

subjecting the polymer layer to annealing treatment to phase-separate the copolymer;

removing one of the phases of the copolymer that has been phase-separated to form a mask layer having a pattern formed of the residual phase; and

transcribing the pattern of mask layer onto a surface of the transparent substrate, thereby forming a surface-roughened substrate having a large number of recessed/projected portions, projected portions of the recessed/projected portions being meet the following conditions:

(1) a mean circle-equivalent diameter ranging from 50 nm to 250 nm with the standard deviation of circle-equivalent diameter of the projected portions being within the range of 10 to 50% of the mean circle-equivalent diameter;

(2) a mean height ranging from 100 nm to 500 nm with the standard deviation of height being within the range of 10 to 50% of the mean height;

(3) a circularity coefficient ranging from 0.6 to 1; and

(4) an area ratio ranging from 20 to 75%.

Claim 6 (Original): The method according to claim 5, wherein the copolymer is a block copolymer having a number mean molecular weight ranging from 100000 to 1000000.

Claim 7 (Original): The method according to claim 5, wherein the copolymer comprises a couple of polymer chains each having a $N/(N_c-N_o)$ ratio (wherein N is a total number of atoms in the monomer unit; N_c is the number of carbon atom in the monomer unit; and N_o is the number of oxygen atom in the monomer unit) of 1.4 or more.

Claim 8 (Original): The method according to claim 5, wherein the copolymer comprises a first polymer and a second polymer at a ratio of 50:50.

Claim 9 (Original): The method according to claim 5, wherein the annealing treatment is performed at a temperature of not lower than the glass transition temperature of the copolymer.

Claim 10 (Original): The method according to claim 5, wherein the annealing treatment is performed under anaerobic conditions.

Claim 11 (Original): The method according to claim 5, wherein the polymer layer further comprises an antioxidant and/or a photo-deterioration preventing agent.

Claim 12 (Original): The method according to claim 5, wherein the mask layer is formed by RIE.

Claim 13 (Original): The method according to claim 5, wherein the mask layer is formed by wet etching.

Claim 14 (Original): A method for manufacturing a transparent substrate for a display device comprising:

forming a polymer layer containing a copolymer selected from block copolymers and graft copolymers on a cast molding substrate;

subjecting the polymer layer to annealing treatment to phase-separate the copolymer;

removing one of the phases of the copolymer that has been phase-separated to form a mask layer having a pattern formed of the residual phase; and

transcribing the pattern of mask layer onto a surface of the cast molding substrate, thereby obtaining a cast mold pattern having a large number of recessed/projected portions;

forming a resist film on at least one of major surfaces of a transparent substrate;

press-contacting the cast mold pattern onto the resist film to form a resist pattern having a large number of recessed/projected portions; and

working the transparent substrate by using the resist pattern as a mask, projected portions of the recessed/projected portions being meet the following conditions:

(1) a mean circle-equivalent diameter ranging from 50 nm to 250 nm with the standard deviation of circle-equivalent diameter of the projected portions being within the range of 10 to 50% of the mean circle-equivalent diameter;

(2) a mean height ranging from 100 nm to 500 nm with the standard deviation of height being within the range of 10 to 50% of the mean height;

(3) a circularity coefficient ranging from 0.6 to 1; and

(4) an area ratio ranging from 20 to 75%.

Claim 15 (Original): The method according to claim 14, wherein the copolymer is a block copolymer having a number mean molecular weight ranging from 100000 to 1000000.

Claim 16 (Original): The method according to claim 14, wherein the copolymer comprises a couple of polymer chains each having a N/(Nc-No) ratio (wherein N is a total number of atoms in the monomer unit; Nc is the number of carbon atom in the monomer unit; and No is the number of oxygen atom in the monomer unit) of 1.4 or more.

Claim 17 (Original): The method according to claim 14, wherein the copolymer comprises a first polymer and a second polymer at a ratio of 50:50.

Claim 18 (Original): The method according to claim 14, wherein the annealing treatment is performed at a temperature of not lower than the glass transition temperature of the copolymer.

Claim 19 (Original): The method according to claim 14, wherein the annealing treatment is performed under anaerobic conditions.

Claim 20 (Original): The method according to claim 14, wherein the polymer layer further comprises an antioxidant or a photo-deterioration preventing agent.

Claim 21 (Original): The method according to claim 14, wherein the mask layer is formed by RIE.

Claim 22 (Original): The method according to claim 14, wherein the mask layer is formed by wet etching.